Exploring Aeronautics			
1997 Mathematics			
Content Standards			
California Mathematics			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	CA	MA.5.MG.1.2	Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area for these objects.
Wings(177-208)	CA	MA.5.MG.1.4	Differentiate between, and use appropriate units of measures for, two- and three-dimensional objects (i.e., find the perimeter, area, volume).
The Resource Center	CA	MA.5.NS.1.5	Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.
Science of Flight	CA	MA.5.MR.2.3	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
Integrating with Aeronautics	CA	MA.5.NS.1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.
Integrating with Aeronautics	CA	MA.5.NS.1.5	Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.
Integrating with Aeronautics	CA	MA.5.AF.1.1	Use information taken from a graph or equation to answer questions about a problem situation.
Integrating with Aeronautics	CA	MA.5.SDAP.1.4	Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.
Scientific Method(124-144)	CA	MA.5.SDAP.1.2	Organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.
Scientific Method(124-144)	CA	MA.5.SDAP.1.4	Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.
Exploring Aeronautics			
1997 Mathematics			
Content Standards			
California Mathematics			
Grade 6			
Activity/Lesson	**State**	**Standards**	
The Resource Center	CA	MA.6.NS.1.1	Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line.

Science of Flight	CA	MA.6.SDAP.2.3	Analyze data displays and explain why the way in which the question was asked might have influenced the results obtained and why the way in which the results were displayed might have influenced the conclusions reached.
Science of Flight	CA	MA.6.MR.1.1	Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.
Integrating with Aeronautics	CA	MA.6.NS.1.2	Interpret and use ratios in different contexts (e.g., batting averages, miles per hour) to show the relative sizes of two quantities, using appropriate notations (a/b, a to b, a:b).
Integrating with Aeronautics	CA	MA.6.AF.1.1	Write and solve one-step linear equations in one variable.
Integrating with Aeronautics	CA	MA.6.MR.2.3	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
Scientific Method(124-144)	CA	MA.6.SDAP.2.3	Analyze data displays and explain why the way in which the question was asked might have influenced the results obtained and why the way in which the results were displayed might have influenced the conclusions reached.
Scientific Method(124-144)	CA	MA.6.SDAP.2.5	Identify claims based on statistical data and, in simple cases, evaluate the validity of the claims.
Exploring Aeronautics			
1997 Mathematics			
Content Standards			
California Mathematics			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Fundamentals of Aeronautics (145-176)	CA	MA.7.MG.1.1	Compare weights, capacities, geometric measures, times, and temperatures within and between measurement systems (e.g., miles per hour and feet per second, cubic inches to cubic centimeters).
Tools of Aeronautics(257-326)	CA	MA.7.MG.1.2	Construct and read drawings and models made to scale.
The Tools of Aeronautics	CA	MA.7.MG.1.2	Construct and read drawings and models made to scale.
The Resource Center	CA	MA.7.NS.1.1	Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10) with approximate numbers using scientific notation.
The Resource Center	CA	MA.7.NS.2.5	Understand the meaning of the absolute value of a number; interpret the absolute value as the distance of the number from zero on a number line; and determine the absolute value of real numbers.

Science of Flight	CA	MA.7.MG.1.1	Compare weights, capacities, geometric measures, times, and temperatures within and between measurement systems (e.g., miles per hour and feet per second, cubic inches to cubic centimeters).
Science of Flight	CA	MA.7.MG.1.2	Construct and read drawings and models made to scale.
Science of Flight	CA	MA.7.MR.1.1	Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.
Integrating with Aeronautics	CA	MA.7.NS.1.3	Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.
Integrating with Aeronautics	CA	MA.7.NS.2.5	Understand the meaning of the absolute value of a number; interpret the absolute value as the distance of the number from zero on a number line; and determine the absolute value of real numbers.
Integrating with Aeronautics	CA	MA.7.AF.1.1	Use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represents a verbal description (e.g., three less than a number, half as large as area A).
Integrating with Aeronautics	CA	MA.7.AF.4.2	Solve multistep problems involving rate, average speed, distance, and time or a direct variation.
Integrating with Aeronautics	CA	MA.7.MG.3.3	Know and understand the Pythagorean theorem and its converse and use it to find the length of the missing side of a right triangle and the lengths of other line segments and, in some situations, empirically verify the Pythagorean theorem by direct measurement.
Scientific Method(124-144)	CA	MA.7.SDAP.1.1	Know various forms of display for data sets, including a stem-and-leaf plot or box-and-whisker plot; use the forms to display a single set of data or to compare two sets of data.
Scientific Method(124-144)	CA	MA.7.SDAP.1.2	Represent two numerical variables on a scatterplot and informally describe how the data points are distributed and any apparent relationship that exists between the two variables (e.g., between time spent on homework and grade level).
Exploring Aeronautics			
1997 Mathematics			
Content Standards			
California Mathematics			
Grades 8-12 (Algebra I)			
Activity/Lesson	**State**	**Standards**	
Science of Flight	CA	MA.8-12.AI.24.2	Students identify the hypothesis and conclusion in logical deduction.

Integrating with Aeronautics	CA	MA.8-12.AI.5.0	Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
Integrating with Aeronautics	CA	MA.8-12.AI.10.0	Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.
Scientific Method(124-144)	CA	MA.8-12.AI.24.2	Students identify the hypothesis and conclusion in logical deduction.
Exploring Aeronautics			
1997 Mathematics			
Content Standards			
California Mathematics			
Grades 8-12 (Geometry)			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	CA	MA.8-12.G.8.0	Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.
Wings(177-208)	CA	MA.8-12.G.9.0	Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.
Wings(177-208)	CA	MA.8-12.G.11.0	Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.
Integrating with Aeronautics	CA	MA.8-12.G.14.0	Students prove the Pythagorean theorem.
Integrating with Aeronautics	CA	MA.8-12.G.15.0	Students use the Pythagorean theorem to determine distance and find missing lengths of sides of right triangles.